

Application No.: 09/742,684

Attorney Docket No.: SALK1720-6

Filing Date: December 19, 2000

(088802-3109)

Response to Office Action (mailed March 23, 2004) faxed June 23, 2004

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Amendments to the Claims

Please amend claims 11, 18, 27 and 28, and add new claims 37 and 38, as indicated below in the listing of claims. Please cancel claims 19-24 and 29-34 without prejudice.

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-10. (Cancelled).

11. (Currently amended) A method for screening a collection of compounds to determine those compounds which bind to receptors at least one member of the activin/TGF- $\beta$  receptor superfamily, said method comprising employing a vertebrate activin receptor member of the activin/TGF- $\beta$  receptor superfamily in a competitive binding assay,

wherein said vertebrate activin receptor has binding affinity for activin and has at least 80% amino acid identity with amino acid residues 20-513 of SEQ ID NO:16; and is encoded by a nucleotide sequence which is:

~~(a) the nucleotide sequence of a cDNA molecule present in a vertebrate library, wherein the noncoding strand of the cDNA molecule hybridizes under conditions of low stringency with a probe comprising the contiguous sequence of nucleotides 128-1609 of SEQ ID NO:15; or~~

~~(b) a sequence degenerate with the sequence of a cDNA molecule according to (a);~~  
wherein the receptor is further characterized by having the following domains, reading from the N-terminal end of said protein:

an extracellular, ligand-binding domain,

a hydrophobic, trans-membrane domain, and

an intracellular serine/threonine kinase domain.

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12-17. (Cancelled).

18. (Currently amended) A method according to claim 11, wherein said receptor is ~~encoded by nucleotides having~~ has at least 70% sequence 90% amino acid identity with respect to the contiguous nucleotide sequence of nucleotides 128-1609 amino acid residues 20-513 of SEQ ID NO:15 NO:16.

19-24. (Cancelled).

25. (Previously presented) A method according to claim 11, wherein said receptor comprises the amino acid sequence of residues 20-513 as set forth in SEQ ID NO:16.

26. (Previously presented) A method according to claim 25, wherein said receptor further comprises the amino acid sequence of residues 1-19 as set forth in SEQ ID NO:16.

27. (Currently amended) A method for screening a collection of compounds to determine those compounds which bind to receptors at least one member of the activin/TGF- $\beta$  receptor superfamily, said method comprising employing a soluble polypeptide domain of a member of the activin/TGF- $\beta$  receptor superfamily in a competitive binding assay, wherein said soluble polypeptide has binding affinity for activin and has at least 80% amino acid identity with amino acid residues 20-134 of SEQ ID NO:16 is encoded by a nucleotide sequence which is:

(a) ~~the nucleotide sequence of a cDNA molecule present in a vertebrate library, wherein the noncoding strand of the cDNA molecule hybridizes under conditions of low stringency with a probe comprising the contiguous sequence of nucleotides 128-472 of SEQ ID NO: 15; or~~

(b) ~~a sequence degenerate with the sequence of a cDNA molecule according to (a).~~

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5  
6 28. (Currently amended) A method according to claim 27, wherein said polypeptide ~~is encoded by nucleotides having~~ has at least ~~70% sequence~~ 90% amino acid identity with ~~respect to the contiguous nucleotide sequence of nucleotides 128-472~~ amino acid residues 20-134 of SEQ ID NO:15 NO:16.

29.-34. (Cancelled).

7 35. (Previously presented) A method according to claim 27, wherein said receptor comprises the amino acid sequence of residues 20-134 as set forth in SEQ ID NO:16.

8 36. (Previously presented) A method according to claim 35, wherein said receptor further comprises the amino acid sequence of residues 1-19 as set forth in SEQ ID NO:16.

9 37. (New) A method for screening a collection of compounds to determine those compounds which bind to at least one member of the activin/TGF- $\beta$  superfamily, said method comprising employing a vertebrate activin receptor in a competitive binding assay, wherein said vertebrate activin receptor has binding affinity for activin and is encoded by nucleotides having at least 90% sequence homology with respect to the contiguous nucleotide sequence of nucleotides 128-1609 of SEQ ID NO:15.

10 38. (New) A method according to claim 37, wherein the contiguous nucleotide sequence further comprises nucleotides 71-127 of SEQ ID NO:15.